

**NORTH CAROLINA DIVISION OF  
AIR QUALITY**

# Application Review

**Issue Date:**

**Region:** Mooresville Regional Office  
**County:** Gaston  
**NC Facility ID:** 3600039  
**Inspector's Name:** Karyn Kurek  
**Date of Last Inspection:** 07/24/2019  
**Compliance Code:** 3 / Compliance - inspection

<p align="center"><b>Facility Data</b></p> <p><b>Applicant (Facility's Name):</b> Duke Energy Carolinas, LLC - Allen Steam Station</p> <p><b>Facility Address:</b>  Duke Energy Carolinas, LLC - Allen Steam Station  253 Plant Allen Road  Belmont, NC 28012</p> <p><b>SIC:</b> 4911 / Electric Services  <b>NAICS:</b> 221112 / Fossil Fuel Electric Power Generation</p> <p><b>Facility Classification: Before:</b> Title V <b>After:</b> Title V  <b>Fee Classification: Before:</b> Title V <b>After:</b> Title V</p>				<p align="center"><b>Permit Applicability (this application only)</b></p> <p><b>SIP:</b> 02Q .0508(i)(16) and (m)  <b>NSPS:</b> NA  <b>NESHAP:</b> NA  <b>PSD:</b> NA  <b>PSD Avoidance:</b> NA  <b>NC Toxics:</b> NA  <b>112(r):</b> NA  <b>Other:</b> NA</p>																																																			
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<p><b>Review Engineer:</b> Ed Martin</p> <p><b>Review Engineer's Signature:</b> _____ <b>Date:</b> _____</p> <p><b>DRAFT FOR NOTICE 7-15-20</b></p>				<p align="center"><b>Comments / Recommendations:</b></p> <p><b>Issue</b> 03757/T47  <b>Permit Issue Date:</b> _____  <b>Permit Expiration Date:</b> _____</p>																																																			

### **Chronology**

February 25, 2016	Application received.
November 2, 2017	Sent draft permit and review to Ms. Ann Quillian at Duke Energy.
April 26, 2018	Comments were received from Duke Energy on the draft permit and review. Duke stated that they addressed the Consent Order allowances surrender and have provided some recommended language. Duke Energy believes that it is the Agreement Under Seal (June 21, 2002) where the modification is needed and not the General Statutes (referring to N.C.G.S. § 143-215.107D(i)). Duke Energy states, as they have mentioned before, that they are working with the Division of Air Quality (DAQ) senior management to move along this process. The draft review stated that Duke Energy has surrendered allowances, pursuant to the Consent Decree, to third parties, who then transferred them to EPA when the allowances should have been transferred to North Carolina.
September 11, 2019	In a letter from Michael Abraczinskas, Director, DAQ, to Mr. James Wells, Vice President, Environmental, Health and Safety Programs & Environmental Sciences, the DAQ discusses Duke Energy's obligations to transfer allowances to the State of North Carolina pursuant to the Clean Smokestacks Act (CSA) of 2002 and the subsequent Agreement Under Seal entered into by Duke Energy and the DAQ in June 2002, and discusses the allowances surrendered pursuant to the Consent Decree.
October 14, 2019	In a letter from Mr. James Wells, Vice President, Environmental, Health and Safety Programs & Environmental Sciences, Duke Energy, to Michael Abraczinskas, Director, DAQ, Duke Energy states that, although they disagree with DAQ that the allowances related to the Consent Decree surrender should be subject to surrender to North Carolina under the terms of the Agreement Under Seal, in the interest of resolving this difference, Duke Energy can agree to surrender the additional allowances as DAQ has identified in the September 11, 2019 letter.
March 2, 2020	In a letter from Stephen G. Hall, Chief, Technical Services Section, DAQ, to Mr. James Wells, Vice President, Environmental, Health and Safety Programs & Environmental Sciences, DAQ states that in response to Duke Energy's October 14, 2019 letter, DAQ accepts Duke Energy's proposal to transfer Acid Rain allowances to the State of North Carolina as requested in DAQ's September 11, 2019 letter.
March 17, 2020	In a letter from Mr. James Wells, Vice President, Environmental, Health and Safety Programs & Environmental Sciences, Duke Energy, to Michael Abraczinskas, Director, DAQ, Duke Energy summarizes the transfer of allowances to fulfill Duke Energy's obligation under terms of the agreement between Duke Energy and the State of North Carolina as provided in the CSA.
June 25, 2020	The draft permit and review were sent to Dan Markley with Duke Energy, Samir Parekh with SSCB, and to Karyn Kurek at the Mooresville Regional Office for comment.
July 2, 2020	Received a comment from Samir Parekh asking whether the 24-hour block average calculation in the permit for the SO <sub>2</sub> and NO <sub>x</sub> CEMS should be made using the valid hourly averages rather than dividing by 24 (see Section V below).
July 8, 2020	Received Duke Energy's comments from Dan Markley (see Section V below).

### **I. Purpose of Application**

The purpose of this application is to incorporate the schedule and all requirements of the Consent Decree entered by the Court on October 20, 2015, between the United States Environmental Protection Agency (EPA) and Duke Energy Carolinas, LLC (Duke Energy) into the Allen Steam Station's Title V permit for certain PSD claims pursuant to Duke Energy's Plant Modernization Program.

The Consent Decree contains two paragraphs requiring submittal(s) to amend their Title V permit as follows:

*Within 180 Days after the Date of Entry of this Consent Decree [i.e., by April 17, 2016], the Defendant shall amend any applicable Title V Permit application(s), or apply for amendments of its Title V Permits, to include a schedule for all performance, operational, and control technology requirements established by this Consent Decree including, but not limited to, (a) the Interim NOx Emission Reductions and Controls specified in Section V of this Consent Decree, (b) the Interim SO<sub>2</sub> Emission Reductions and Controls specified in Section VI of this Consent Decree, (c) requirements pertaining to the Surrender of SO<sub>2</sub> and NOx Allowances, and (d) the Retirement of Allen Units 1, 2, and 3 as required under this Consent Decree. [Consent Decree ¶118]*

and

*Within one year from the Date of Entry of this Consent Decree [i.e., by October 20, 2016], the Defendant shall apply to permanently include the requirements and limitations enumerated in this Consent Decree into a federally enforceable permit or request a site-specific amendment to the North Carolina SIP, such that the requirements and limitations enumerated in this Consent Decree become and remain ‘applicable requirements’ as that term is defined in 40 C.F.R. Part 70.2. The permit shall require compliance with the following: (a) the Interim NOx Emission Reductions and Controls specified in Section V of this Consent Decree, (b) the Interim SO<sub>2</sub> Emission Reductions and Controls specified in Section VI of this Consent Decree, (c) requirements pertaining to the Surrender of SO<sub>2</sub> and NOx Allowances, and (d) the Retirement of Allen Units 1, 2, and 3 as required under this Consent Decree. [Consent Decree ¶119]*

Duke Energy is allowed to combine the above two permitting actions into one action, if a single permit application is submitted by the deadline of April 17, 2016, complying with all requirements included in both paragraphs.

The permit application submitted by the Permittee meets the requirements of Consent Decree ¶118 and ¶119. Therefore, these paragraphs will not be included in the permit.

There are no changes to any equipment.

This is a significant Title V permit modification that does not contravene or conflict with a condition in the existing permit pursuant to rule 15A NCAC 02Q .0501(b)(1). These changes must be made federally-enforceable; therefore, public notice of the draft permit is required.

## II. Permit Changes

The following changes were made to the Duke Energy Carolinas LLC – Allen Steam Station Air Permit No. 03757T46:

Page No.	Section	Change
Insignificant Activities List	Insignificant Activities List	Changed I-81 from a 36 kW generator to a 35 kW generator.
Cover	--	Amended permit numbers and dates.
TOC	--	Added Section 2.5 Consent Decree – Applicable Requirements
11	2.1.A, regulation table	Added 15A NCAC 02Q .0508(i)(16) and (m) for sulfur dioxide and nitrogen oxides for the Consent Decree.
64-67	2.5	Added this section for the Consent Decree – Applicable Requirements.

### III. Facility Description

Duke Energy's Allen Steam Station is an electric utility that generates electrical power. The Allen Steam Station is permitted for five coal/No. 2 fuel oil-fired electric utility boilers (ID Nos. ES-1 (U1 Boiler), ES-2 (U2 Boiler), ES-3 (U3 Boiler), ES-4 (U4 Boiler), and ES-5 (U5 Boiler)), one No. 2 fuel oil-fired auxiliary boiler (ID No. ES-6 (AuxB)), and other supporting ancillary sources.

### IV. Regulatory Evaluation

Allen Units 1, 2 and 3 are subject to the compliance schedule described in Section 2.5 of the permit. This compliance schedule is a federally-enforceable sequence of actions with milestones leading to compliance with applicable Consent Decree requirements for which the source has agreed to in the October 20, 2015 Consent Decree reached in *United States et. al. v. Duke Energy Corporation No. 1:00-cv-1262 (M.D.N.C.)*.

#### Background

Plaintiff, the United States of America (United States), on behalf of the United States Environmental Protection Agency (EPA), filed a complaint on December 22, 2000, for injunctive relief and civil penalties pursuant to Sections 113(b) and 167 of the Clean Air Act (CAA), 42 U.S.C. §§ 7413(b) and 7477, alleging that Duke Energy Corporation, a North Carolina corporation, now known as Duke Energy Carolinas, LLC, a North Carolina limited liability company (Defendant or Duke Energy) violated the Prevention of Significant Deterioration (PSD) provisions of Part C of Subchapter I of the Act, 42 U.S.C. §§ 7470-7492, and the federally-enforceable North Carolina State Implementation Plan (SIP).

Environmental Defense, the North Carolina Sierra Club, and the North Carolina Public Interest Research Group (Plaintiff-Intervenors), after their motion to intervene was granted, filed a complaint on September 6, 2001, pursuant to Section 304 of the Act, 42 U.S.C. § 7604.

In their complaints, the United States and the Plaintiff-Intervenors (collectively, Plaintiffs) allege, inter alia, that Duke Energy made major modifications to major emitting facilities, and failed to obtain the necessary permits and install and operate the controls necessary under the CAA to reduce sulfur dioxide (SO<sub>2</sub>) and/or oxides of nitrogen (NO<sub>x</sub>), and/or particulate matter (PM), at certain electricity generating stations located in North Carolina, and that such emissions damage human health and the environment.

After certain claims alleged in the complaint were dismissed pursuant to joint stipulations, PSD claims remain at the following thirteen coal-fired electric generating units, all of which were alleged to have been modified pursuant to Duke Energy's Plant Modernization Program: Allen Units 1 and 2; Buck Units 3, 4, and 5; Cliffside Units 1, 2, 3, and 4; Dan River Unit 3; and Riverbend Units 4, 6, and 7.

Duke Energy has already ceased operations at and permanently shut down Buck Unit 3, Buck Unit 4, Buck Unit 5, Cliffside Unit 1, Cliffside Unit 2, Cliffside Unit 3, Cliffside Unit 4, Dan River Unit 3, Riverbend Unit 4, Riverbend Unit 6, and Riverbend Unit 7. The permanent retirement of these units is a federally-enforceable obligation under the Consent Decree and the permit.

#### Duke Energy's Obligations to Surrender Allowances Under the Consent Decree and the CSA

A conflict arose regarding Duke Energy's obligation to surrender allowances under the Consent Decree and the CSA. Pursuant to the 2002 CSA law and the subsequent related Agreement Under Seal entered into by Duke Energy and the DAQ in June 2002, Duke Energy agreed to "...transfer to the State each year those allowances that result from compliance with the collective emissions limitations for SO<sub>2</sub> or NO<sub>x</sub> set out in N.C.G.S. § 143-215.107D." In other words, under the CSA, Duke Energy is required to surrender to North Carolina certain emissions allowances that may be allocated yearly to Duke Energy that exceed the CSA annual SO<sub>2</sub> and NO<sub>x</sub> tonnage caps.

In addition, under the 2015 Consent Decree, Duke Energy agreed and is required, beginning in calendar year 2016, and continuing each calendar year thereafter, to surrender all NO<sub>x</sub> and SO<sub>2</sub> allowances allocated to Allen Unit 1 and Allen Unit 2 (among other units) for that calendar year that Duke Energy does not need to meet federal and/or state CAA regulatory requirements for those Units (Consent Decree ¶61).

The conflict is that Duke Energy wanted to deduct the allowances they previously surrendered to EPA to comply with the Consent Decree from the allowances DAQ determined that Duke Energy agreed to transfer to North Carolina under the CSA and the related Agreement Under Seal as discussed below.

In DAQ's September 11, 2019 letter to Duke Energy (see chronology), the DAQ states that based on review of Duke Energy's May 30, 2019 proposed transfer of allowances for surrender of their annual excess allocations as required by the CSA, that since Duke Energy agreed to surrender annual allowances under the Consent Decree (as discussed above), and since the Consent Decree was negotiated almost 14 years after the Agreement Under Seal, the Division has determined that Duke Energy should not have deducted the Consent Decree allowances from its annual CSA allowance transfer to the State of North Carolina. Further, the letter states that to reconcile the amount of allowances that were deducted but should have been surrendered, additional allowance transfers are required.

In a letter from Mr. James Wells, Vice President, Environmental, Health and Safety Programs & Environmental Sciences, Duke Energy, to Michael Abraczinskas, Director, DAQ, dated October 14, 2019, Duke Energy states that, pursuant to the Consent Decree, Duke Energy surrendered to EPA its SO<sub>2</sub> allowances in perpetuity for years 2016 and beyond for certain units. Further, Duke Energy states that, although they disagree with DAQ that the allowances related to the Consent Decree surrender should be subject to surrender to North Carolina under the terms of the Agreement Under Seal, in the interest of resolving this difference, Duke Energy can agree to surrender the additional allowances as DAQ has identified in the September 11, 2019 letter if DAQ agrees that transferring these allowances will fully resolve DAQ's concerns regarding Acid Rain allowances transferred pursuant to the Consent Decree.

In a letter from Stephen G. Hall, Chief, Technical Services Section, DAQ, to Mr. James Wells, Vice President, Environmental, Health and Safety Programs & Environmental Sciences, dated March 2, 2020, DAQ states that in response to Duke Energy's October 14, 2019 letter, DAQ accepts Duke Energy's proposal to transfer Acid Rain allowances to the State of North Carolina as requested in DAQ's September 11, 2019 letter. DAQ acknowledges that Duke Energy Carolinas has and will satisfy its annual assessment to surrender allowances above the CSA cap.

In a letter from Mr. James Wells, Vice President, Environmental, Health and Safety Programs & Environmental Sciences, Duke Energy, to Michael Abraczinskas, Director, DAQ, dated March 17, 2020, Duke Energy summarizes the resolution of the issue to transfer allowances to fulfill Duke Energy's obligation under terms of the agreement between Duke Energy and the State of North Carolina as provided in the CSA.

#### Consent Decree Requirements

The Department of Justice, United States District Court for the Middle District of North Carolina, in Civil Action No. 1:00 cv 1262, entered a Consent Decree against Duke Energy Corporation on October 20, 2015, for certain PSD claims pursuant to Duke Energy's Plant Modernization Program and ordered, adjudged, and decreed certain requirements, including those requirements related to Duke Energy's Title V Permit as shown below and in Section 2.5 of the permit.

#### **A Retirement of Plant Modernization Program Units**

1. By no later than December 31, 2024, Duke Energy shall permanently retire Allen Unit 1 and Allen Unit 2. [Consent Decree ¶49]

#### **B. Interim NO<sub>x</sub> Emission Reductions and Controls**

1. Operation and Performance NO<sub>x</sub> Requirements at Allen Units 1 and 2
  - a. Commencing no later than February 17, 2016, and continuing until the unit is retired, Duke Energy shall continuously operate the existing selective non-catalytic reduction (SNCR) at Allen Unit 1. Commencing no later than February 16, 2017, and continuing until the unit is retired, Duke Energy shall achieve and maintain a 365-day rolling average NO<sub>x</sub> emission rate no greater than 0.250 lb/mmBtu. [Consent Decree ¶50]
  - b. Commencing no later than February 17, 2016, and continuing until the unit is retired, Duke Energy shall continuously operate the existing SNCR at Allen Unit 2. Commencing no later than February 16, 2017, and continuing until the unit is retired, Duke Energy shall achieve and maintain a 365-day rolling average NO<sub>x</sub> emission rate no greater than 0.250 lb/mmBtu. [Consent

Decree ¶51]

2. Allen Unit 1 and 2 Annual NO<sub>x</sub> Tonnage Limitations

- a. Beginning in calendar year 2016 and continuing each calendar year thereafter until the unit is retired, Duke Energy shall not exceed an annual NO<sub>x</sub> tonnage limitation of 600 tons per year at Allen Unit 1. [Consent Decree ¶52]
- b. Beginning in calendar year 2016 and continuing each calendar year thereafter until the unit is retired, Duke Energy shall not exceed an annual NO<sub>x</sub> tonnage limitation of 600 tons per year at Allen Unit 2. [Consent Decree ¶53]

3. Monitoring of NO<sub>x</sub> Emissions

- a. In determining a 365-day rolling average NO<sub>x</sub> emission rate, Duke Energy shall use NO<sub>x</sub> emission data obtained from a CEMS in accordance with the procedures of 40 CFR Part 75, except that the missing data substitution procedures of 40 CFR Part 75 shall not apply to such determinations. Diluent capping (*i.e.*, 5% CO<sub>2</sub>) will be applied to the NO<sub>x</sub> emission rate for any hours where the measured CO<sub>2</sub> concentration is less than 5% following the procedures in 40 CFR Part 75, Appendix F, Section 3.3.4.1. [Consent Decree ¶54]
- b. For purposes of determining compliance with the annual NO<sub>x</sub> tonnage limitations at Allen Unit 1 and Allen Unit 2, Duke Energy shall use NO<sub>x</sub> emission data obtained from a CEMS in accordance with the procedures specified in 40 CFR Part 75. [Consent Decree ¶55]

**C. Interim SO<sub>2</sub> Emission Reductions and Controls**

1. Operation and Performance SO<sub>2</sub> Requirements at Allen Units 1 and 2

- a. Commencing no later than February 17, 2016, and continuing until the unit is retired, Duke Energy shall continuously operate the existing FGD at Allen Unit 1. Commencing no later than February 16, 2017, and continuing until the unit is Retired, Duke Energy shall achieve and maintain a 365-day rolling average SO<sub>2</sub> emission rate of no greater than 0.120 lb/mmBtu. [Consent Decree ¶56]
- b. Commencing no later than February 17, 2016, and continuing until the unit is retired, Duke Energy shall continuously operate the existing FGD at Allen Unit 2. Commencing no later than February 16, 2017, and continuing until the unit is retired, Duke Energy shall achieve and maintain a 365-day rolling average SO<sub>2</sub> emission rate of no greater than 0.120 lb/mmBtu. [Consent Decree ¶57]

2. Monitoring of SO<sub>2</sub> Emissions

- a. In determining a 365-day rolling average SO<sub>2</sub> emission rate, Duke Energy shall use SO<sub>2</sub> emission data obtained from a CEMS and certified FGD inlet duct SO<sub>2</sub> monitors in accordance with the procedures of 40 CFR Part 75, except that the missing data substitution procedures of 40 CFR Part 75 shall not apply to such determinations. Diluent capping (*i.e.*, 5% CO<sub>2</sub>) will be applied to the SO<sub>2</sub> emission rate for any hours where the measured CO<sub>2</sub> concentration is less than 5% following the procedures in 40 CFR Part 75, Appendix F, Section 3.3.4.1. [Consent Decree ¶58]

**D. Allowance Surrender Requirements**

1. Use and Surrender of NO<sub>x</sub> and SO<sub>2</sub> Allowances

- a. Except as may be necessary to comply with Section XIV (Stipulated Penalties) of the Consent Decree, Duke Energy shall not use NO<sub>x</sub> or SO<sub>2</sub> allowances to comply with any requirement of the Consent Decree, including by claiming compliance with any emission limitation by using, tendering, or otherwise applying NO<sub>x</sub> or SO<sub>2</sub> allowances to offset any excess emissions. [Consent Decree ¶59]
- b. Except as otherwise provided, beginning in calendar year 2016 and continuing each calendar year thereafter, Duke Energy shall not sell, bank, trade, or transfer its interest in any NO<sub>x</sub> or SO<sub>2</sub> allowances allocated to Allen Unit 1, Allen Unit 2, Buck Unit 3, Buck Unit 4, Buck Unit 5, Cliffside Unit 1, Cliffside Unit 2, Cliffside Unit 3, Cliffside Unit 4, Dan River Unit 3, Riverbend Unit 4, Riverbend Unit 6, and Riverbend Unit 7. [Consent Decree ¶60]
- c. Beginning in calendar year 2016, and continuing each calendar year thereafter, Duke Energy shall surrender all NO<sub>x</sub> and SO<sub>2</sub> allowances allocated to Allen Unit 1, Allen Unit 2, Buck Unit 3, Buck Unit 4, Buck Unit 5, Cliffside Unit 1, Cliffside Unit 2, Cliffside Unit 3, Cliffside Unit 4, Dan River Unit 3, Riverbend Unit 4, Riverbend Unit 6, and Riverbend Unit 7 for that calendar year that Duke Energy does not need to meet federal and/or state CAA regulatory requirements for those

Units<sup>1</sup>. [Consent Decree ¶61]

- d. Nothing in the Consent Decree shall prevent Duke Energy from purchasing or otherwise obtaining NO<sub>x</sub> or SO<sub>2</sub> Allowances from another source for purposes of complying with federal and/or state CAA regulatory requirements to the extent otherwise allowed by law. [Consent Decree ¶62]
  - e. The requirements of this Consent Decree pertaining to Duke Energy's use and Surrender of NO<sub>x</sub> Allowances are permanent and are not subject to any termination provision of the Consent Decree. [Consent Decree ¶63]
2. Method for Surrender of NO<sub>x</sub> and SO<sub>2</sub> Allowances
- a. Duke Energy shall Surrender, or transfer to a non-profit third-party selected by Duke Energy for Surrender, all NO<sub>x</sub> and SO<sub>2</sub> Allowances required to be Surrendered pursuant to Section VII.A of the Consent Decree (Section D.1 above) by June 30 of the immediately following calendar year. [Consent Decree ¶64]
  - b. If any Allowances required to be Surrendered under the Consent Decree are transferred directly to a non-profit third-party, Duke Energy shall include a description of such transfer in the next report submitted to EPA pursuant to Section XII (Periodic Reporting) of the Consent Decree (Section G below). Such report shall: (a) identify the non-profit third-party recipient(s) of the Allowances and list the serial numbers of the transferred Allowances; and (b) include a certification by the third-party recipient(s) stating that the recipient(s) will not sell, trade, or otherwise exchange any of the Allowances and will not use any of the Allowances to meet any obligation imposed by any environmental law. No later than the third periodic report due after the transfer of any Allowances, Duke Energy shall include a statement that the third-party recipient(s) Surrendered the Allowances for permanent Surrender to EPA in accordance with the provisions of Paragraph 66 of the Consent Decree (Section D.2.c below) within one year after Duke Energy transferred the Allowances to them. Duke Energy shall not have complied with the Allowance Surrender requirements of this Paragraph until all third-party recipient(s) have actually Surrendered the transferred Allowances to EPA. [Consent Decree ¶65]
  - c. For all Allowances required to be Surrendered, Duke Energy shall, with respect to the Allowances that Duke Energy is to Surrender, ensure that an Allowance transfer request form is first submitted to EPA's Office of Air and Radiation's Clean Air Markets Division directing the transfer of such Allowances to the EPA Enforcement Surrender Account or to any other EPA account that EPA may direct in writing. Such Allowance transfer requests may be made in an electronic manner using the EPA's Clean Air Markets Division Business System, or similar system provided by EPA. As part of submitting these transfer requests, Duke Energy shall ensure that the transfer of its Allowances are irrevocably authorized and that the source and location of the Allowances being Surrendered are identified by name of account and any applicable serial or other identification numbers or station names. [Consent Decree ¶66]

**E. Prohibition on Netting Credits or Offsets**

- 1. Emission reductions that result from actions to be taken by Duke Energy after October 20, 2015 to comply with the requirements of the Consent Decree shall not be considered as a creditable contemporaneous emission decrease for the purpose of obtaining a netting credit or offset under the CAA's nonattainment NSR and PSD programs. Notwithstanding the preceding sentence, to the extent otherwise allowed by law, Duke Energy may use any creditable contemporaneous emission decreases resulting solely from retiring Allen Unit 3 for the purposes of permitting combined cycle or simple cycle natural gas-fired combustion turbine(s) where the Allen Station is located, subject to the following additional requirements:
  - a. The emission reductions must be contemporaneous and otherwise creditable within the meaning of the CAA and the North Carolina SIP, and Duke Energy must comply with, and be subject to, all requirements and criteria for creating contemporaneous creditable decreases as set forth in 40 CFR §52.21(b) and the North Carolina SIP, subject to the limitations in this Section E.1.
  - b. Duke Energy must apply for, and obtain, minor NSR permits for the construction and operation of such new combined cycle natural gas-fired combustion turbine(s), and must provide notice and a copy of the permit application to the United States and the Environmental Defense, the North

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<sup>1</sup> Allowances allocated under the Cross-State Air Pollution Rule (CSAPR) for NO<sub>x</sub> and SO<sub>2</sub> are required to be surrendered only for control periods starting on or after the fourth anniversary of the Date of Entry of the Consent Decree (Date of Entry is October 20, 2015).

Carolina Sierra Club, and the North Carolina Public Interest Research Group (Plaintiff-Intervenors) collectively (Plaintiffs) in accordance with Section XIX (Notices) of the Consent Decree, concurrent with its permit application submission to the Division of Air Quality. Duke Energy's request for such minor NSR permit must include federally-enforceable emission limitations that reflect either Best Available Control Technology or Lowest Achievable Emission Rate, as appropriate, depending upon the attainment classification for the relevant regulated pollutants for which Duke Energy is utilizing emission reductions as provided in Paragraph 67 of the Consent Decree (this Section E.1)

- c. At a minimum, such new combined and/or simple cycle natural gas-fired combustion turbine(s) must include low NOx burners and in the case of combined cycle natural gas-fired turbine(s), must also include Selective Catalytic Reduction pollution control(s).
- d. The emission reductions that Duke Energy intends to utilize for netting shall not be available under Section VIII of the Consent Decree (this Section E.1) if such use would result in an exceedance of a PSD increment, or an interference with "reasonable further progress" toward attainment of a NAAQS in accordance with Part D of Title I of the CAA.
- e. Duke Energy must be and remain in full compliance with the provisions of the Consent Decree establishing performance, operational, and control technology including, but not limited to, (a) the interim NOx emission reductions and controls specified in Section V of the Consent Decree (Section IV.B above), (b) the interim SO<sub>2</sub> emission reductions and controls specified in Section VI of the Consent Decree (Section IV.C above), (c) requirements pertaining to the surrender of SO<sub>2</sub> and NOx Allowances (Section IV.D above), and (d) the Retirement of Allen Units 1, 2, and 3 as required under the Consent Decree (Sections IV.A.1 and IV.F.1). [Consent Decree ¶67]

**F. Additional Injunctive Relief**

1. By no later than December 31, 2024 Duke Energy shall permanently retire Allen Unit 3. [Consent Decree ¶69]

**G. Periodic Reporting**

1. Duke Energy shall submit to Plaintiffs a periodic report, within 60 days after the end of each half of the calendar year (January through June and July through December). The report shall include the following information:
  - a. All information necessary to determine compliance during the reporting period with: all applicable 365-day rolling average emission rates and annual NOx tonnage limitations; the obligation to monitor NOx and SO<sub>2</sub> emissions; and the obligation to surrender NOx allowances and SO<sub>2</sub> allowances.
  - b. An identification of all periods when any pollution control device required by the Consent Decree to continuously operate was not operating, the reason(s) for the equipment not operating, and the basis for Duke Energy's compliance or non-compliance with the continuous operation requirements of the Consent Decree.
  - c. A summary of Duke Energy's actions implemented and expenditures (cumulative and in the current reporting period) made pursuant to implementation of the Additional Injunctive Relief required pursuant to Section IX of the Consent Decree.

If the initial periodic report covers a period of time of less than 60 days, Duke Energy shall not be required to submit a periodic report for that period, but shall include all of the above information and data for that period in its next periodic report. [Consent Decree ¶82]

2. In any periodic report submitted pursuant to Section XII of the Consent Decree (this Section.G), Duke Energy may incorporate by reference information previously submitted under its Title V permitting requirements, provided that Duke Energy attaches the Title V permit report (or the pertinent portions of such report) and provides a specific reference to the provisions of the Title V permit report that are responsive to the information required in the periodic report. [Consent Decree ¶83]
3. Duke Energy shall submit to Plaintiffs a report of Energy any violation or deviation from any provision of the Consent Decree within 15 working days after Duke Energy knew or should have known of the event. In the report, Duke Energy shall explain the cause or causes of the violation or deviation and all measures taken or to be taken by Duke Energy to cure the reported violation or deviation or to prevent such violations or deviations in the future. If at any time the provisions of the Consent Decree are included in Title V permits, consistent with the requirements for such inclusion in the Consent Decree, then the deviation reports required under applicable Title V regulations shall be



- deemed to satisfy all the requirements of this paragraph. [Consent Decree ¶84]
4. Each report required by the Consent Decree shall be signed by the Responsible Official as defined in Title V of the CAA for the appropriate unit, and shall contain the following certification: [Consent Decree ¶85]

*This information was prepared either by me or under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my evaluation, or the direction and my inquiry of the person(s) who manage the system, or the person(s) directly responsible for gathering the information, I hereby certify under penalty of law that, to the best of my knowledge and belief, this information is true, accurate, and complete. I understand that there are significant penalties for submitting false, inaccurate, or incomplete information to the United States.*

#### **H. Termination**

1. Once Duke Energy has:
  - a. completed the requirements of Section IV (Retirement of Units Allegedly Modified Pursuant to the Plant Modernization Program), Section IX (Additional Injunctive Relief), and Section XVII (Permits);
  - b. maintained continuous compliance with this Consent Decree, including the interim requirements of Section V (Interim NOx Emission Reductions and Controls) and Section VI (Interim SO<sub>2</sub> Emission Reductions and Controls), and Section VII (Allowance Surrender Requirements); and
  - c. paid the civil penalty and any accrued stipulated penalties as required by this Consent Decree; and
  - d. certified that the date is later than December 31, 2025,Duke Energy may serve upon the Plaintiffs a Request for Termination of this Consent Decree as a whole, stating that Duke Energy has satisfied all the requirements of this Paragraph, together with all necessary supporting documentation. [Consent Decree ¶151]
2. Notwithstanding the provisions of Paragraph 151, Duke Energy may serve upon Plaintiffs a Request for Termination as to Completed Tasks. As soon as Duke Energy completes a Retirement or any other requirement of this Consent Decree that is not ongoing or recurring, Duke Energy may serve upon Plaintiffs a Request for Termination of the provision or provisions of this Consent Decree that imposed the requirement. [Consent Decree ¶152]
3. Following receipt by the Plaintiffs of Duke Energy's Request for Termination, the Parties shall confer informally concerning the Request and any disagreement that the Parties may have as to whether the Duke Energy has satisfactorily complied with the requirements for termination of this Consent Decree. If the United States, after consultation with the other Plaintiffs, agrees that the Decree may be termination, the Parties shall submit, for the Court's approval, a joint stipulation terminating the Decree. [Consent Decree ¶153]
4. If the United States, after consultation with the other Plaintiffs, does not agree that the Decree may be termination, Duke Energy may invoke Dispute Resolution under Section XVI of this Decree. However, Duke Energy shall not seek Dispute Resolution of any dispute regarding termination, under Paragraph 107 of Section XVI, until 60 days after service of its Request for Termination or receipt of an adverse decision from the Plaintiffs, whichever is earlier. [Consent Decree ¶154]

#### **V. Comments on Draft Permit**

##### Duke Energy Comments

The draft permit and review were sent to Duke Energy on June 25, 2020. The following comments were received July 8, 2020 from Dan Markley:

1. The title to Section 2.5 "Schedule of Compliance" is misleading as this section addresses both the requirements of Consent Decree paragraphs 118 and 119. We recommend changing the title to "Consent Decree – Applicable Requirements".

##### DAQ's Response

This change was made.

2. For clarity, we propose the second paragraph [in Section 2.5] read as follows:

“The United States District Court for the Middle District of North Carolina entered a consent decree in United States et al. v. Duke Energy Corporation, No. 1:00 cv 1262 (M.D.N.C.), on October 20, 2015, resolving certain PSD claims related to Duke Energy’s Plant Modernization Program and ordered, adjudged, and decreed the following.”

**DAQ’s Response**

This change was made.

3. Emission source I-81 has been changed from a 36 kW generator to a 35 kW generator.

**DAQ’s Response**

This change was made.

4. Please note that Rick Roper is now the station manager and the Responsible Official as of June 1, 2020.

**DAQ’s Response**

This change was made. In an email to Dan Markey on July 9, 2020, Duke was requested to provide the new RO’s name, title and mailing address for the permit cover page and for them to have the MRO update DAQ’s records, which shows Terry Tuck is the RO. In an email on July 9, 2020, Duke provided the information for the new RO as shown in the first page of the permit and in the cover letter.

**SSCB Comments**

The draft permit and review were sent to Samir Parekh with SSCB on June 25, 2020.

In an email on July 2, 2020, Samir Parekh, asked, regarding the SO<sub>2</sub> and NO<sub>x</sub> CEMS in Section 2.1.A.1.d (02D .0501(c)) and 2.1.A.2.c (02D .0519) of the permit respectively: if a unit operates for only a portion of the 24-hour block (see permit language below for example for the SO<sub>2</sub> CEMS), should the 24-hour block average be calculated using the valid hourly averages rather than dividing by 24? That is, it seems that dividing by 24 when the unit operates less than 24 hours will dilute the true emission rate by including zeros in the denominator of the average calculation (for hours when not operating) rather than dividing by only the number of valid hourly averages during the 24-hour block period.

**Monitoring/Recordkeeping** [15A NCAC 02Q .0508(f)]

The Permittee shall ensure compliance with 15A NCAC 02D .0501(c) by determining sulfur dioxide emissions in pounds per million Btu using a continuous emissions monitoring (CEM) system meeting the requirements of 40 CFR Part 75 except that unbiased values may be used (missing data shall be filled in accordance with 40 CFR Part 75 whenever the unit combusts any fuel). Compliance with sulfur dioxide emission standards shall be determined by averaging hourly continuous emission monitoring system values over a 24-hour block period beginning at midnight. To compute the 24-hour block average, the average hourly values (missing data shall be filled in accordance with 40 CFR Part 75) shall be summed, and the sum shall be divided by 24. The minimum number of data points, equally spaced, required to determine a valid hour value shall be determined by 40 CFR Part 75. If any 24-hour block average exceeds 1.0 pounds per million Btu heat input or records are not maintained, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501(c).

On July 13, 2020, the Permitting Section (Booker Pullen, Mark Cuilla, Rahul Thaker and Ed Martin) discussed this comment and concluded that Permitting believes the current Allen permit (as well as the other Duke permits) is correct to use the recently readopted 02D .0606 rule language to monitor SO<sub>2</sub> and NO<sub>x</sub> emissions using CEMS under 02D .0501(c) or 02D .0519 respectively. That is, to compute the 24-hour block average, the average hourly values (missing data shall be filled in accordance with 40 CFR Part 75) shall be summed, and the sum shall be divided by 24.

#### MRO Comments

The draft permit and review were sent to Karyn Kurek at the Mooresville Regional Office on June 25, 2020.

No comments were received from MRO.

### **VI. Public Notice**

A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 02Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Consistent with 15A NCAC 02Q .0525, the EPA will have a concurrent 45-day review period. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 02Q .0522, a copy of each permit application, each proposed permit and each final permit pursuant shall be provided to EPA. Also, pursuant to 02Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice is provided to the public under 02Q .0521 above.

### **VII. Other Requirements**

#### PE Seal

A PE seal is not required since the application does not involve air pollution capture and control systems in accordance with 02Q .0112.

#### Zoning

Zoning is not required since there is no expansion of the facility.

#### Fee Classification

The facility fee classification before and after this modification will remain as "Title V".

#### Increment Tracking

NA

### **VIII. Recommendations**

TBD